CLAIMS

1. Lens antenna equipment comprising:

a hemispherical Luneberg lens made of dielectric,

a reflector having a size larger than the lens diameter and provided on a face equivalent to a cross-section made by halving a globular shape of the lens,

a primary feed to be arranged at a focus part of the lens, and

an arm for holding the primary feed, all of which are unitarily assembled together,

wherein the holder of the arm can be turned about an axis that is a perpendicular line passing the center of the lens when the reflector is attached to its installation position in a substantially perpendicular manner with respect to the ground surface, and

wherein the primary feed can be moved along the surface of the lens, on a plane that is perpendicular to the axis passing the center of the lens lens, and on a semicircle centering the axis.

2. Lens antenna equipment comprising:

a hemispherical Luneberg lens made of dielectric,

a reflector having a size larger than the lens diameter and provided on a face equivalent to a cross-section made by halving a globular shape of the lens,

a primary feed to be arranged at a focus part of the lens, and

an arm for holding the primary feed, all of which are unitarily assembled together,

wherein the holder of the arm can be turned about an axis that is a line passing the center of the lens and inclined 2θ degree toward the inclining direction of the reflector when the reflector is installed at its installation position with an angle of θ degree inclined from the perpendicular condition with respect to the ground surface, and

wherein the primary feed can be moved along the surface of the lens, on a plane that is perpendicular to the axis passing the center of the lens, and on a semicircle centering the axis.

3. Lens antenna equipment according to claim 1 or 2,

wherein a plurality of arms are provided with different levels of height in terms of the position of the rotational supporting point so that each primary feed can be fixed at a position determined by computing the installation position of the respective primary feed in the longitudinal direction of the arms on the basis of information on the installation position of the antenna equipment and information on the position of counterpart equipment to be communicated with, and

wherein the respective primary feeds can be moved, by means of turn of the respective arms, along the surface of the lens, on a plane that is perpendicular to the axis passing the center of the lens, and on a semicircle centering the axis.

4. Lens antenna equipment comprising:

a hemispherical Luneberg lens made of dielectric,

a reflector having a size larger than the lens diameter and provided on a face equivalent to a cross-section made by halving a globular shape of the lens,

a primary feed to be arranged at a focus part of the lens,

a holding member for holding the primary feed, and

a reflector support mast to be fixed to a fixing structure in a substantially perpendicular manner with respect to the ground surface, all of which are unitarily assembled together,

wherein the reflector is mounted to the mast such that the reflector can be turned about the mast as a fulcrum, whereby the azimuth angle of the antenna can be adjusted.

5. Lens antenna equipment comprising:

a hemispherical Luneberg lens made of dielectric,

a reflector having a size larger than the lens diameter and provided on a face equivalent to the cross-section made by halving a globular shape of the lens,

a primary feed to be arranged at a focus part of the lens, and

an arched arm for holding the primary feed, the arched arm being provided such that the arched arm can pass along, and with a constant distance apart from, the spherical surface of the lens, all of which are unitarily assembled together,

wherein both ends of the arm can be moved along a circular orbit which

is concentric with the peripheral circumference of the lens, and

wherein the primary feed is installed on the arm such that the primary feed can be moved in a longitudinal direction of the arm.

6. Lens antenna equipment comprising:

a hemispherical Luneberg lens made of dielectric,

a reflector having a size larger than the lens diameter and provided on a face equivalent to the cross-section made by halving a globular shape of the lens,

primary feeds to be arranged at focus parts of the lens, and

first and second arms for holding the primary feeds, all of which are unitarily assembled together,

wherein the holder of the first arm can be turned about an axis that is a perpendicular line passing the center of the lens when the reflector is attached to its installation position in a substantially perpendicular manner with respect to the ground surface, the first arm enabling a primary feed to move along the surface of the lens, on a plane that is perpendicular to the axis passing the center of the lens, and on a semicircle centering the axis,

wherein the second arm is an arched arm which can be moved along the spherical surface of the lens with a constant distance apart from the surface of the lens, both ends of the second arm being capable of moving along a circular orbit which is concentric with the peripheral circumference of the lens, and

wherein the second arm, which can be connected with the primary feed

attached to the first arm, holds the other primary feeds.

7. Lens antenna equipment comprising:

a hemispherical Luneberg lens made of dielectric,

a reflector having a size larger than the lens diameter and provided on a face equivalent to the cross-section made by halving a globular shape of the lens,

n number of (n is a positive integer) primary feeds to be arranged at focus parts of the lens, and

first and second arms for holding the n number of primary feeds, all of which are unitarily assembled together,

wherein the holder of the first arm can be turned about an axis that is a perpendicular line passing the center of the lens when the reflector is attached to its installation position in a substantially perpendicular manner with respect to the ground surface, and an n-th primary feed out of primary feeds to be arranged in the focus part of the lens is held by a first arm such that the n-th primary feed can be moved along the surface of the lens, on a plane perpendicular to an axis passing the center of the lens, and on a semicircle centering the axis, and

wherein the second arm is structured so as to turn in a manner centering the n-th primary feed, and primary feeds other than the n-th primary feed are installed on the second arm.

8. Lens antenna equipment comprising:

a hemispherical Luneberg lens made of dielectric,

a first reflector, at least upper half thickness part of which has a disk form and which is to be provided on a face equivalent to the cross-section made by halving a globular shape of the lens,

a primary feed to be arranged at the focus part of the lens, and

an arm for holding the primary feed, all of which are unitarily assembled together,

wherein the first reflector can be turned, within the same plane, about an axis at the center of the lens.

9. Lens antenna equipment comprising:

a hemispherical Luneberg lens made of dielectric,

a first reflector having a size larger than the lens diameter and to be provided on a face equivalent to the cross-section made by halving a globular shape of the lens, a primary feed to be arranged at the focus part of the lens, and

an arm for holding the primary feed, all of which are unitarily assembled together,

wherein the first reflector out of a plurality of reflectors holds the arm, and the other reflectors are attached to the first reflector such that the first reflector and the other reflectors are combined together in a mutually turnable manner.

10. Lens antenna equipment according to claim 9, wherein the first reflector and the other reflectors are attachable and detachable, and the other reflectors can be fixed at their respective positions determined as a result of

their rotating movement relative to the first reflector.